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Method for manufacturing storage electrode of highly integrated semiconductor device

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Number of Countries: 001 Number of Patents: 001

Patent Family:

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KR 2001008604	A	20010205	KR 9926523	A	19990702	200151 B

Priority Applications (No Type Date): KR 9926523 A 19990702

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Patent No Kind Lan Pg Main IPC Filing Notes

KR 2001008604 A 1 H01L-027/108

Abstract (Basic): KR 2001008604 A

NOVELTY - A method for manufacturing a storage electrode of a highly integrated semiconductor device is to provide a storage electrode of a three-dimensional structure wherein the storage electrode has a broad sectional area and a uniform surface, by forming the storage electrode of a hemispherical grain(HSG) structure.

DETAILED DESCRIPTION - A contact hole of an interlayer dielectric(20) for isolation between devices is formed in a semiconductor substrate(10) having a semiconductor device. After a polysilicon layer highly doped with impurities is deposited in an active region to contact the contact hole, and an undoped amorphous silicon layer is deposited, the stacked amorphous silicon layer and the polysilicon layer are patterned to guarantee a capacitor region of a stacked shape. A sidewall spacer (34) made of an undoped amorphous silicon layer is formed on a sidewall of the patterned amorphous silicon layer and polysilicon layer. After a silicon seed is formed on the amorphous silicon layer and a high vacuum annealing process is performed, the seed is uniformly grown as a hemispherical convex -concave shape to form a storage electrode.

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Title Terms: METHOD; MANUFACTURE; STORAGE; ELECTRODE; HIGH; INTEGRATE; SEMICONDUCTOR; DEVICE

Derwent Class: U13; U14

International Patent Class (Main): H01L-027/108

File Segment: EPI

Manual Codes (EPI/S-X): U13-C04B1A; U14-A03B4

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